

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A method of forming a film of a boron doped diamond for an electrode used in an electrolytic apparatus, electrode, said the method comprising:

performing a CVD process by supplying a mixed gas comprising a carbon source and hydrogen to form forming a first diamond film on a graphite substrate at a high film-formation rate by supplying a mixed gas of hydrogen, a boron source and methane, the methane being present at a concentration of from 1 to 10%; and

forming a second wherein performing said CVD process comprises forming, as an and outermost surface of the diamond film on the first diamond film at a low film-formation rate by supplying a mixed gas of hydrogen, a boron source and methane, the methane being present at a concentration of not more than 0.3%;

wherein:

each of the first diamond film and the second and outermost diamond film is formed by a hot filament CVD process or a microwave plasma CVD process;

the first diamond film comprises a low-quality diamond having impurities of amorphous carbon or graphite;

the first diamond film has a thickness of not less than 5 μm ;

the second and outermost diamond film, comprises a high-quality diamond film having substantially no impurities of amorphous carbon or graphite; and

the second and outermost diamond film has a thickness of not more than 1 μm .

Claims 2 to 5 (Cancelled).

Claim 6 (New): The method of claim 1, wherein the first diamond film has a thickness of not less than 10 μm .

Claim 7 (New): The method of claim 1, wherein the high film-formation rate is a rate of about 5 $\mu\text{m}/\text{hour}$.

Claim 8 (New): The method of claim 1, wherein the low film-formation rate is a rate of about 1 $\mu\text{m}/\text{hour}$.

Claim 9 (New): The method of claim 1, wherein the method is completed within about 2 hours.

Claim 10 (New): The method of claim 1, wherein the method is carried out at a pressure of from 1330 to 13300 Pa.

Claim 11 (New): The method of claim 1, wherein the method is carried out at a temperature of from 700 to 1000 $^{\circ}\text{C}$.

Claim 12 (New): The method of claim 1, wherein each of the first diamond film and the second and outermost diamond film is formed by a hot filament CVD process.

Claim 13 (New): The method of claim 1, wherein each of the first diamond film and the second and outermost diamond film is formed by a microwave plasma CVD process.

Claim 14 (New): The method of claim 1, wherein each of the first diamond film and the second and outermost diamond film is formed in a chamber including a filament provided above the graphite substrate that is heated to a temperature of 2000 to 2200 °C.